CLAIMS

1. A casing section comprising:

a body comprising a wall;

a window, wherein the window is an opening in the wall of the body; and

a covering, wherein the covering:

(A) is composed of a composite material comprising at least:
(I) a first layer, wherein the first layer is a pressure-bearing layer that is capable of withstanding a specific pressure differential which can be a difference in pressure from an inside of the casing section and an outside of the casing section; and
(II) a second layer, wherein the second layer is a structural layer that provides a desired strength, which can be less than, greater than, or equal to the strength of the casing section to the composite material;

(B) is located on the outer surface of the body;

(C) covers the window; and

(D) spans at least a sufficient distance beyond the perimeter of the window such that the casing section has a desired pressure rating at the location of the window;

wherein the composite material comprises two or more layers, wherein the one or more of the layers of the composite material undergo a phase transformation from a solid to a liquid or semi-liquid after introduction into a wellbore; and

wherein the one or more layers melt at a bottomhole temperature of the wellbore.

2. The casing section according to claim 1, wherein the casing section is part of a casing string.

3. The casing section according to claim 1 or 2, wherein the shape and size of the window are selected such that a lateral wellbore can be formed without having to enlarge the perimeter of the window.

4. The casing section according to any preceding claim, wherein the first layer is impermeable and inert to fluids that come in contact with the first layer.

5. The casing section according to any preceding claim, wherein the thickness of the first layer is selected such that at least the first layer can withstand the specific pressure differential.

6. The casing section according to any preceding claim, wherein the substance the first layer is made from and the thickness of the first layer are selected such that the first layer provides the desired pressure rating to the casing section at the location of the window.

7. The casing section according to any preceding claim, wherein the composite material further comprises an additional pressure-bearing layer, and wherein the additional pressure-bearing layer increases the pressure rating of the composite material.

8. The casing section according to any preceding claim, wherein the desired strength is approximately the same strength as the casing section.

9. The casing section according any preceding claim, wherein the second layer comprises a high-strength material.

10. The casing section according to claim 9, wherein the high-strength material is carbon fiber.

11. The casing section according to any preceding claim, wherein the layers of the composite material, the substances making up each layer, and the thickness of each layer are selected such that the composite material has the desired pressure rating and a desired strength.

12. The casing section according to claim 11, wherein the desired pressure rating of the composite material is greater than or equal to the bottomhole pressure of a wellbore containing the casing section.

13. The casing section according to any preceding claim, wherein the covering spans the entire length of the casing section.

14. A method of creating a lateral wellbore in a subterranean formation comprising:

introducing a casing string into a wellbore, wherein the casing string comprises at least one casing section, wherein the casing section comprises:

(A) a body comprising a wall;

(B) a window, wherein the window is an opening in the wall of the body; and

(C) a covering, wherein the covering:

(i) is composed of a composite material comprising at least: a first layer and a second layer, wherein the first layer is a pressure-bearing layer that is capable of withstanding a specific pressure differential which can be a difference in pressure from an inside of the casing section and an outside of the casing section, and the second layer is a structural layer that provides a desired strength which can be less than, greater than, or equal to the strength of the casing section to the composite material;

(ii) is located on the outer surface of the body;

(iii) covers the window; and

(iv) spans at least a sufficient distance beyond the perimeter of the window such that the casing section has a desired pressure rating at the location of the window;

drilling through at least a portion of the covering from the inside of the casing string to expose the window; and forming the lateral wellbore adjacent to the exposed window;

wherein the composite material comprises two or more layers, wherein the one or more of the layers of the composite material undergo a phase transformation from a solid to a liquid or semi-liquid after introduction into the wellbore; and

wherein the one or more layers melt at a bottomhole temperature of the wellbore.

15. The method according to claim 14, wherein the one or more layers dissolve in a solvent.

16. The method according to any one of claims 14 to 15, wherein the lateral wellbore is completed after the step of forming the lateral wellbore.

17. The method according to any one of claims 14 to 16, further comprising producing a reservoir fluid from a subterranean formation, wherein the wellbore penetrates the subterranean formation.